

FIG. 1

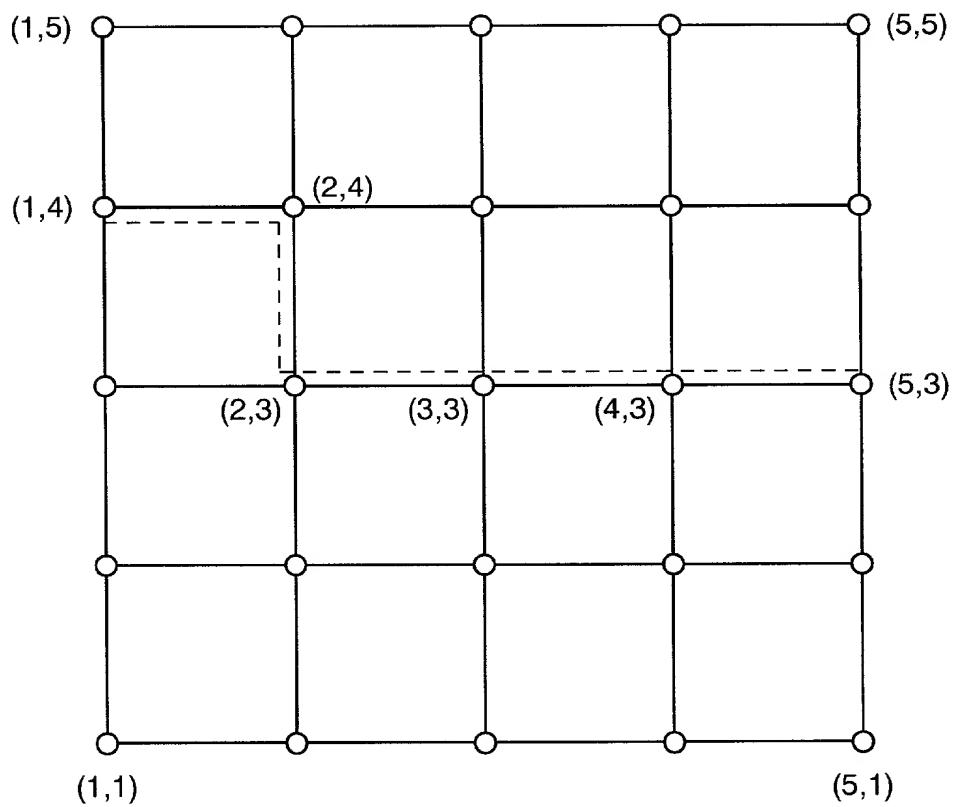


FIG. 2

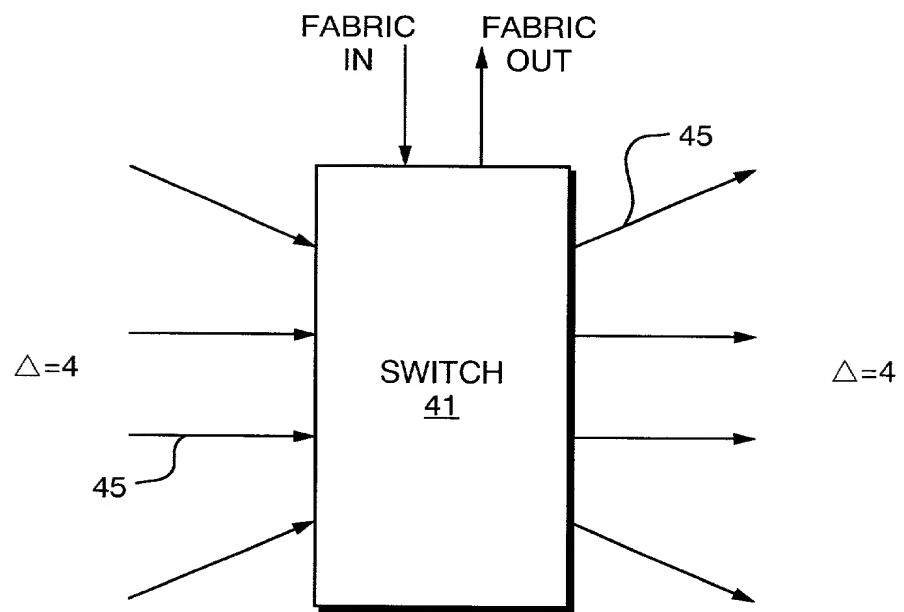


FIG. 3

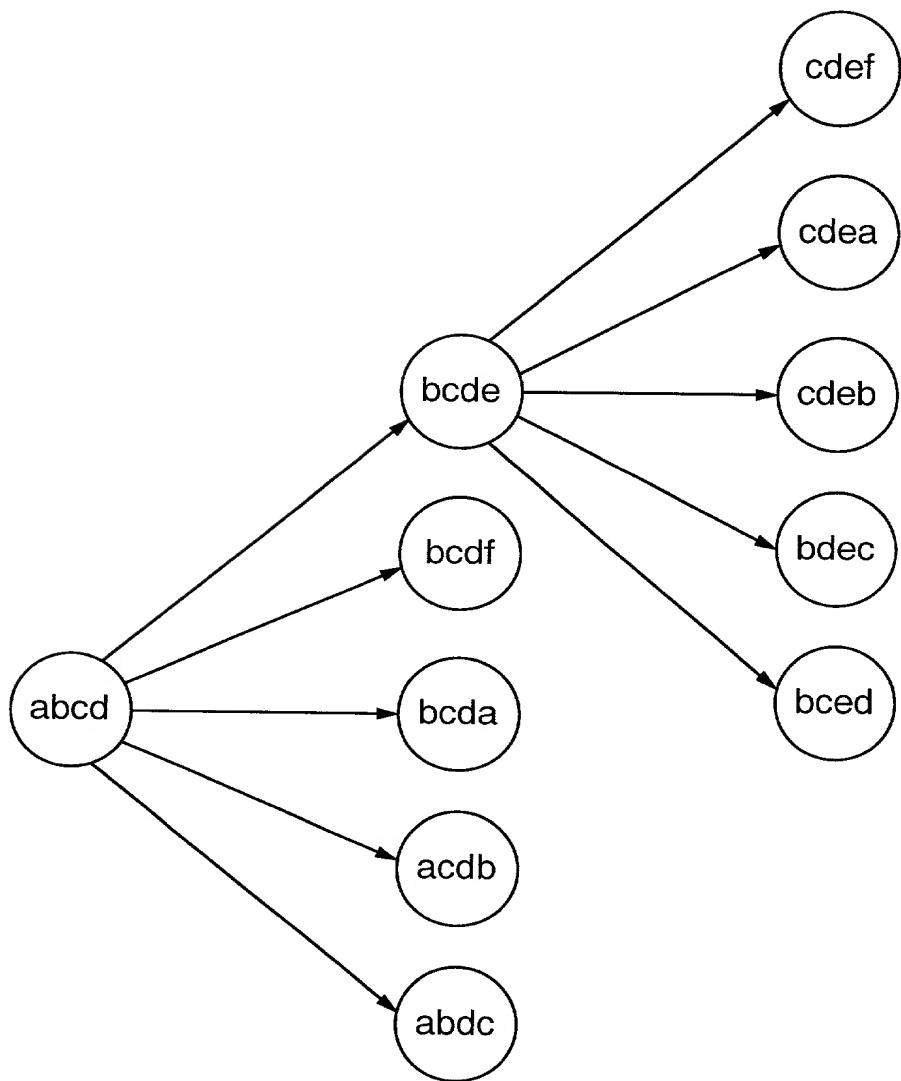


FIG. 4A

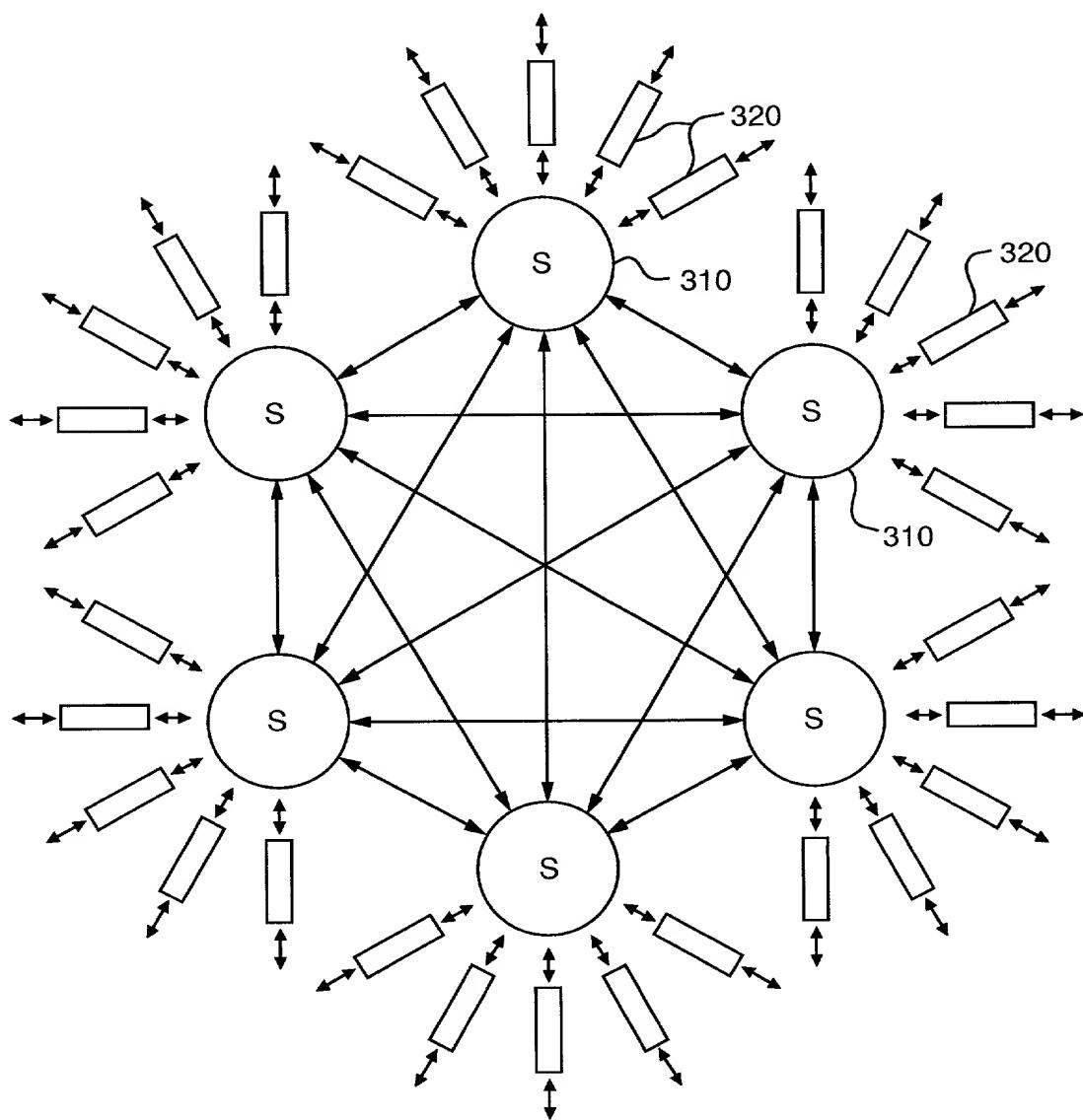


FIG. 4B

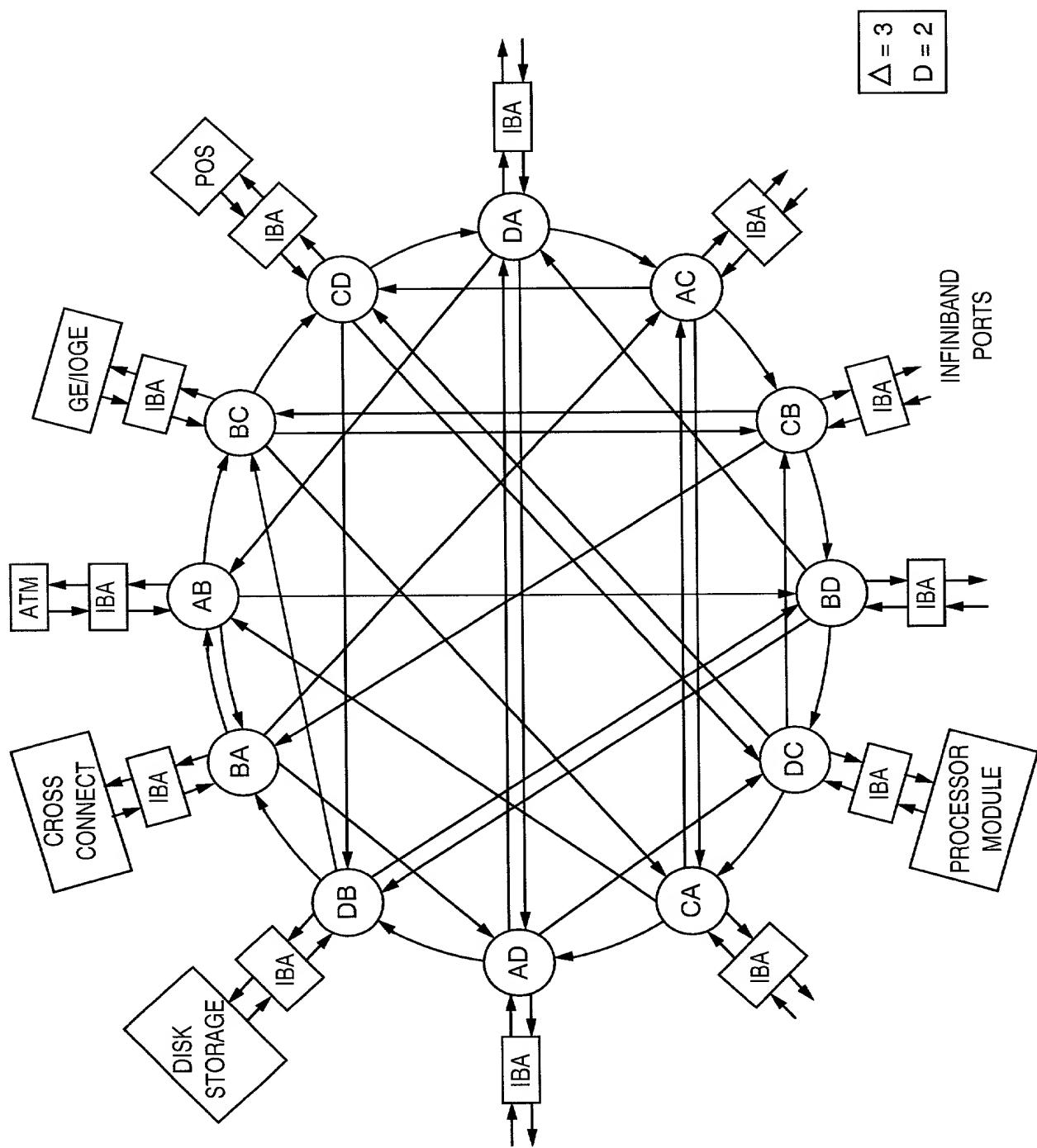


FIG. 5A

7/21

AB	AC	AD
$AB \rightarrow BC$	$AC \rightarrow CB$	$AD \rightarrow DB$
$AB \rightarrow BD$	$AC \rightarrow CD$	$AD \rightarrow DC$
$AB \rightarrow BA$	$AC \rightarrow CA$	$AD \rightarrow DA$
BA	BC	BD
$BA \rightarrow AC$	$BC \rightarrow CD$	$BD \rightarrow DA$
$BA \rightarrow AD$	$BC \rightarrow CA$	$BD \rightarrow DC$
$BA \rightarrow AB$	$BC \rightarrow CB$	$BD \rightarrow DB$
CA	CB	CD
$CA \rightarrow AB$	$CB \rightarrow BD$	$CD \rightarrow DA$
$CA \rightarrow AD$	$CB \rightarrow BA$	$CD \rightarrow DB$
$CA \rightarrow AC$	$CB \rightarrow BC$	$CD \rightarrow DC$
DA	DB	DC
$DA \rightarrow AB$	$DB \rightarrow BA$	$DC \rightarrow CA$
$DA \rightarrow AC$	$DB \rightarrow BC$	$DC \rightarrow CB$
$DA \rightarrow AD$	$DB \rightarrow BD$	$DC \rightarrow CD$

FIG. 5B

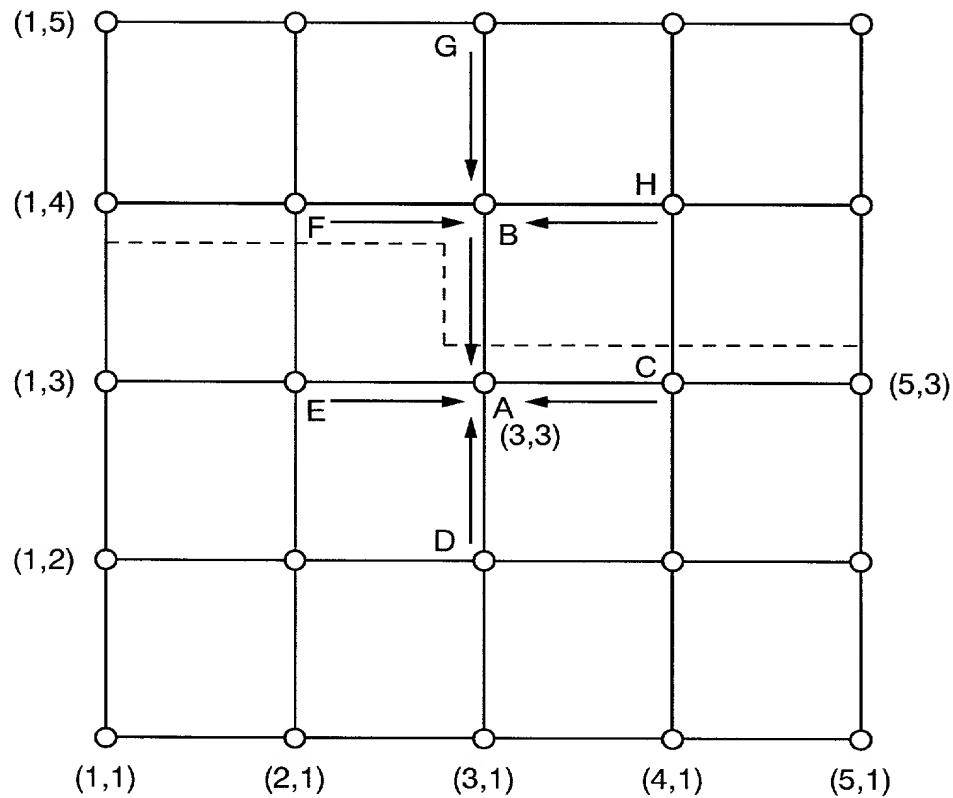


FIG. 6

9/21

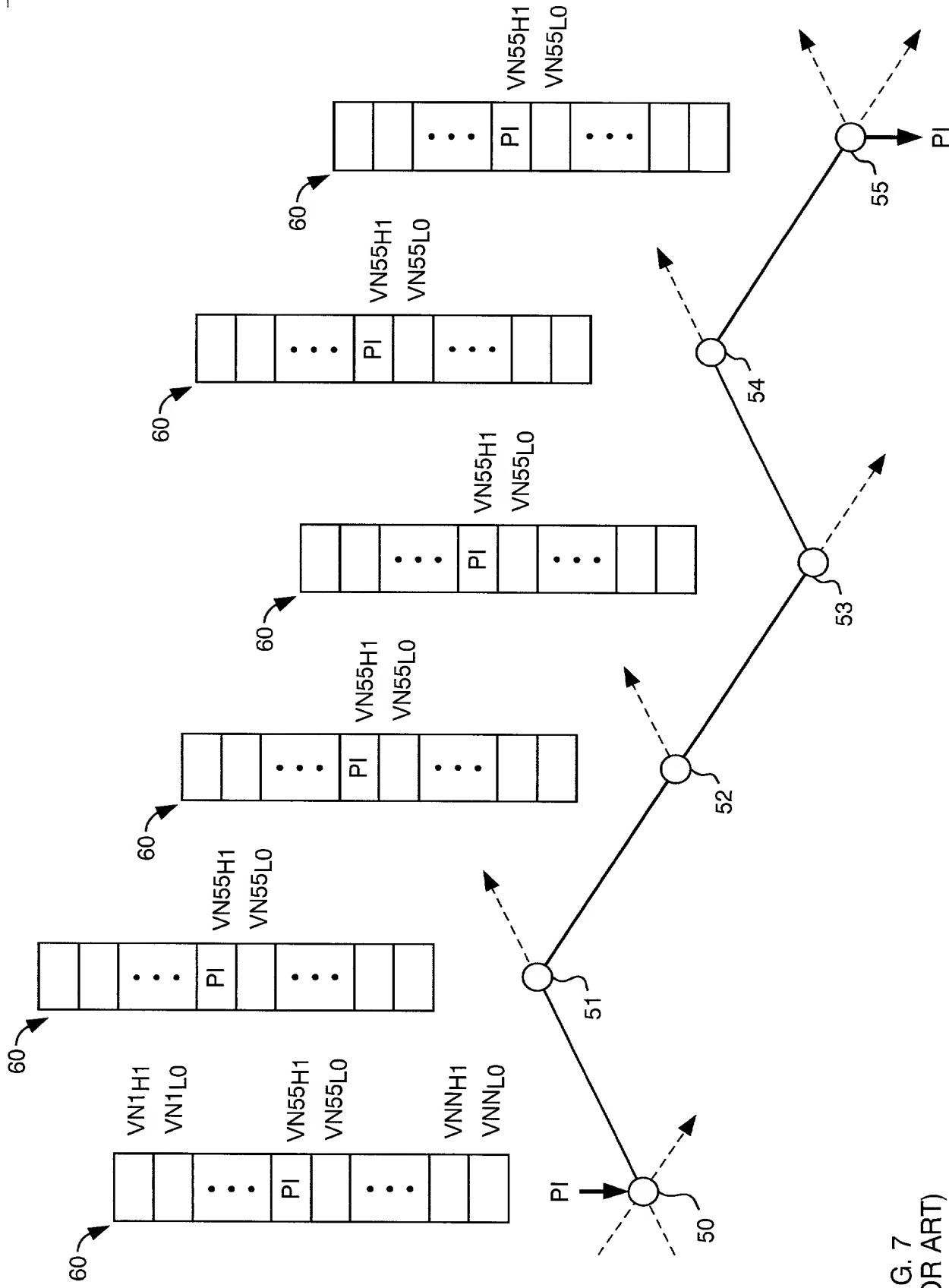


FIG. 7
(PRIOR ART)

10/21

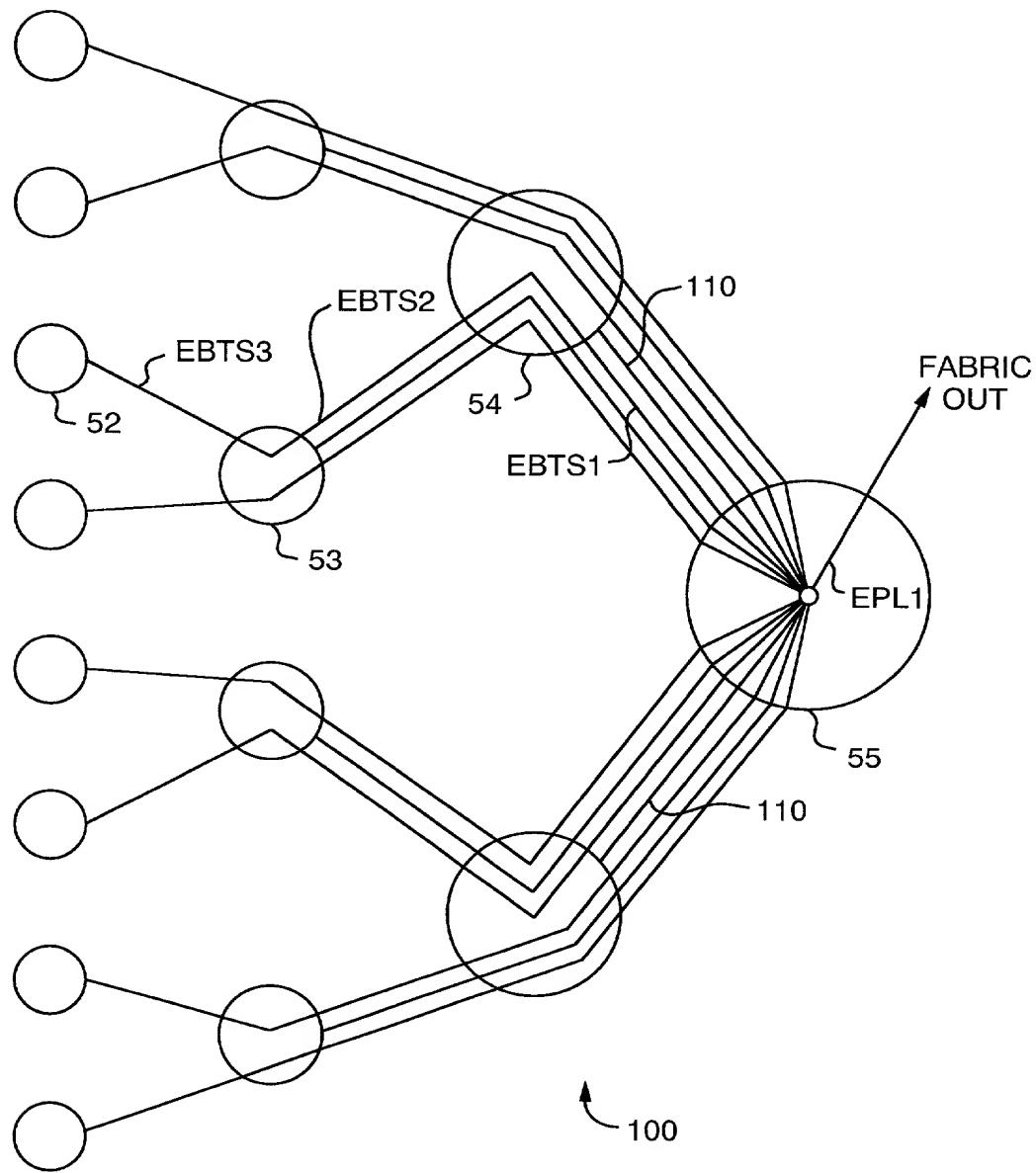


FIG. 8A

11/21

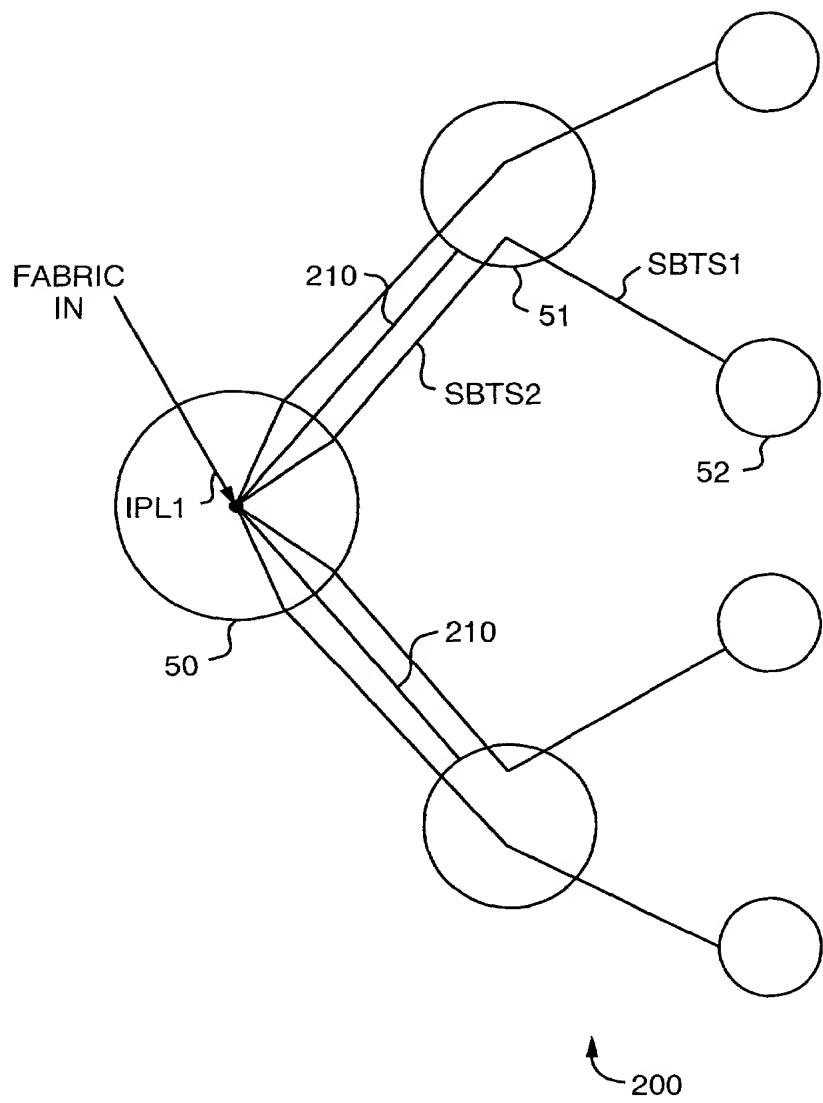


FIG. 8B

12/21

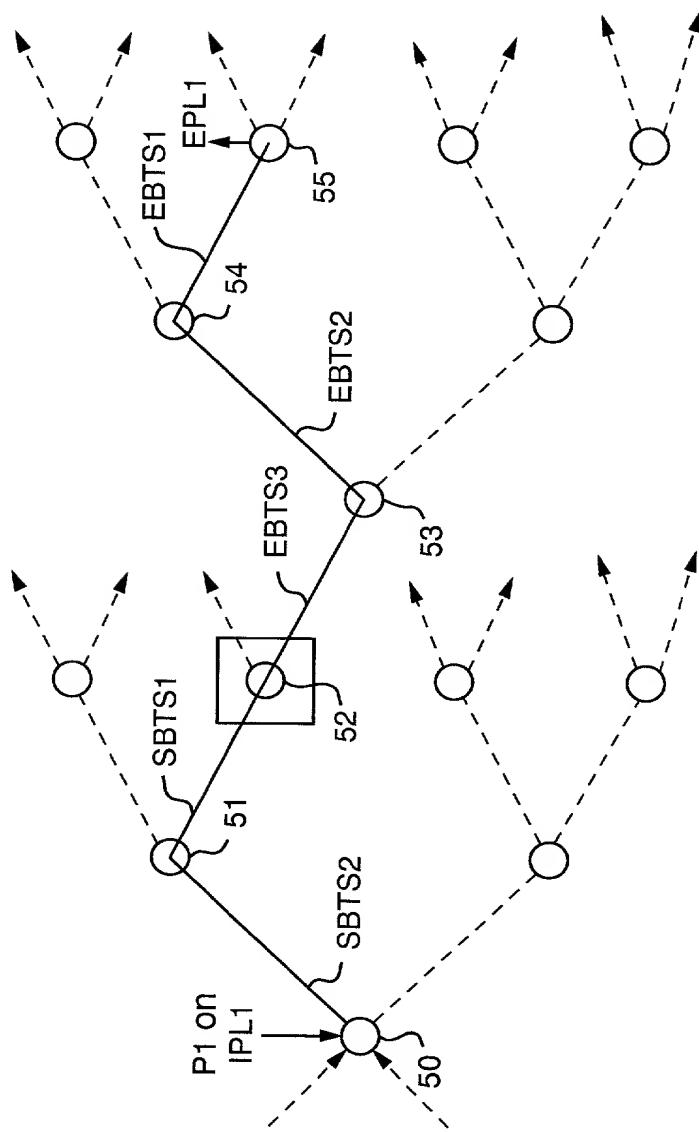


FIG. 9

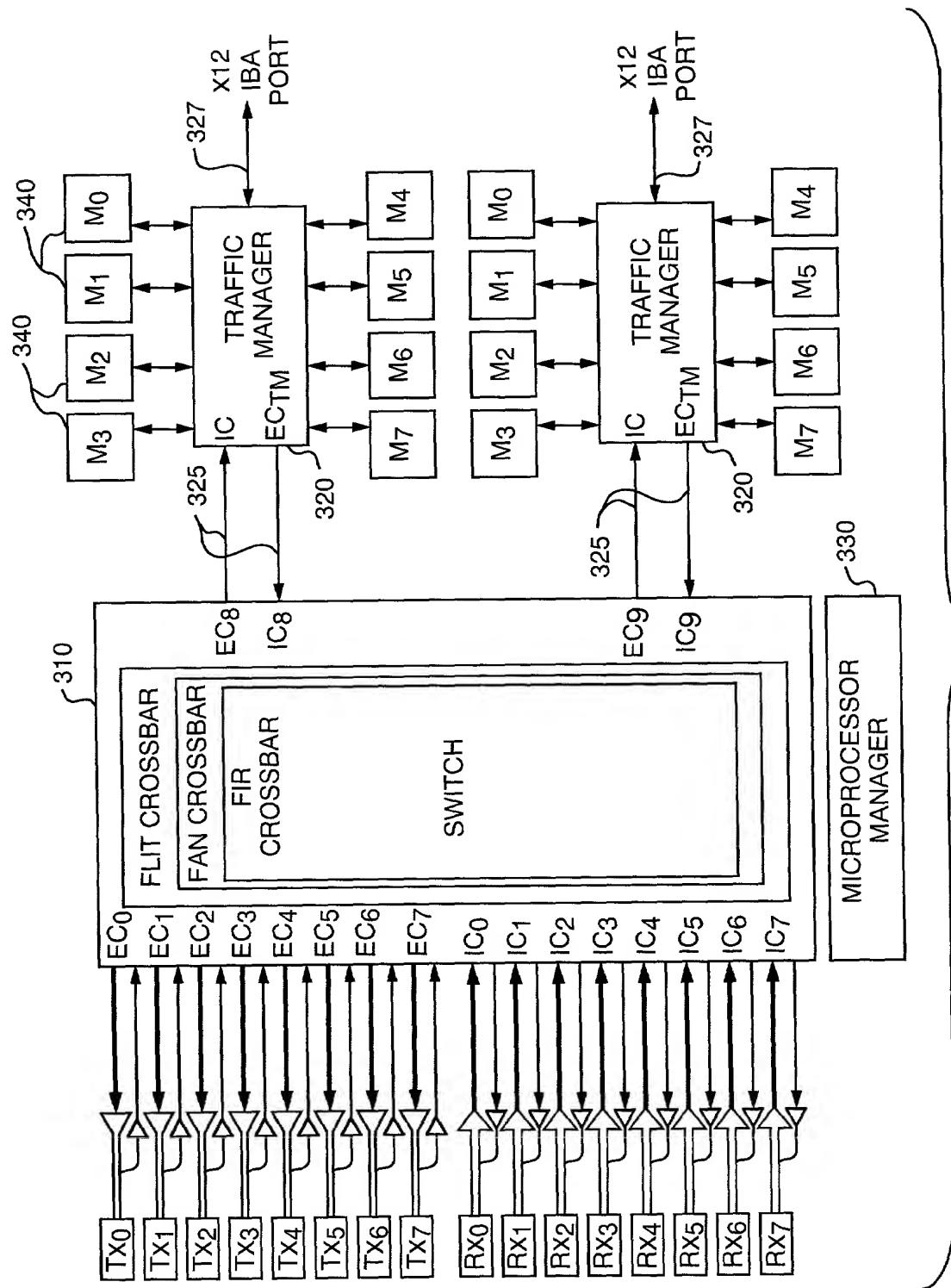


FIG. 10

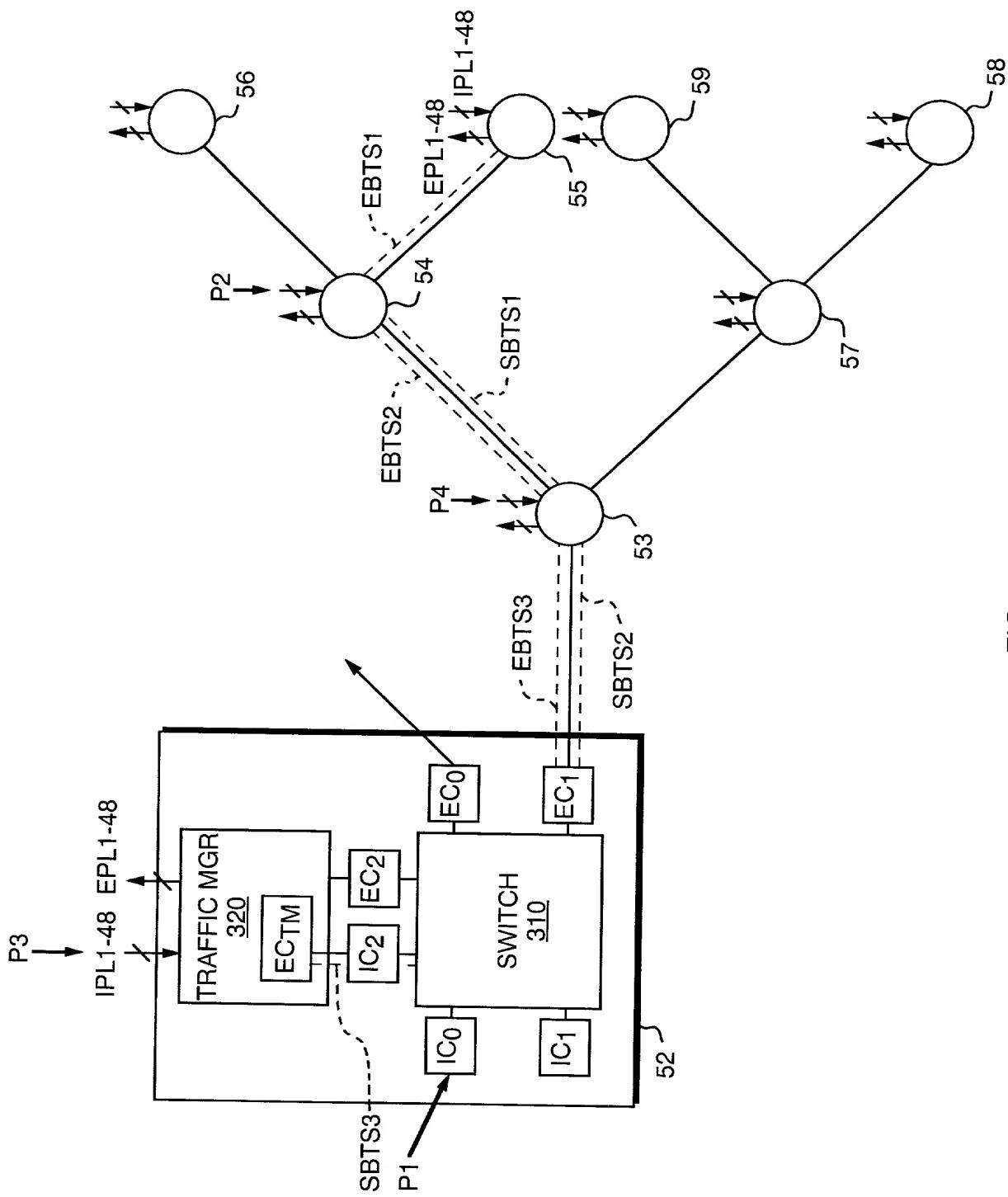


FIG. 11A

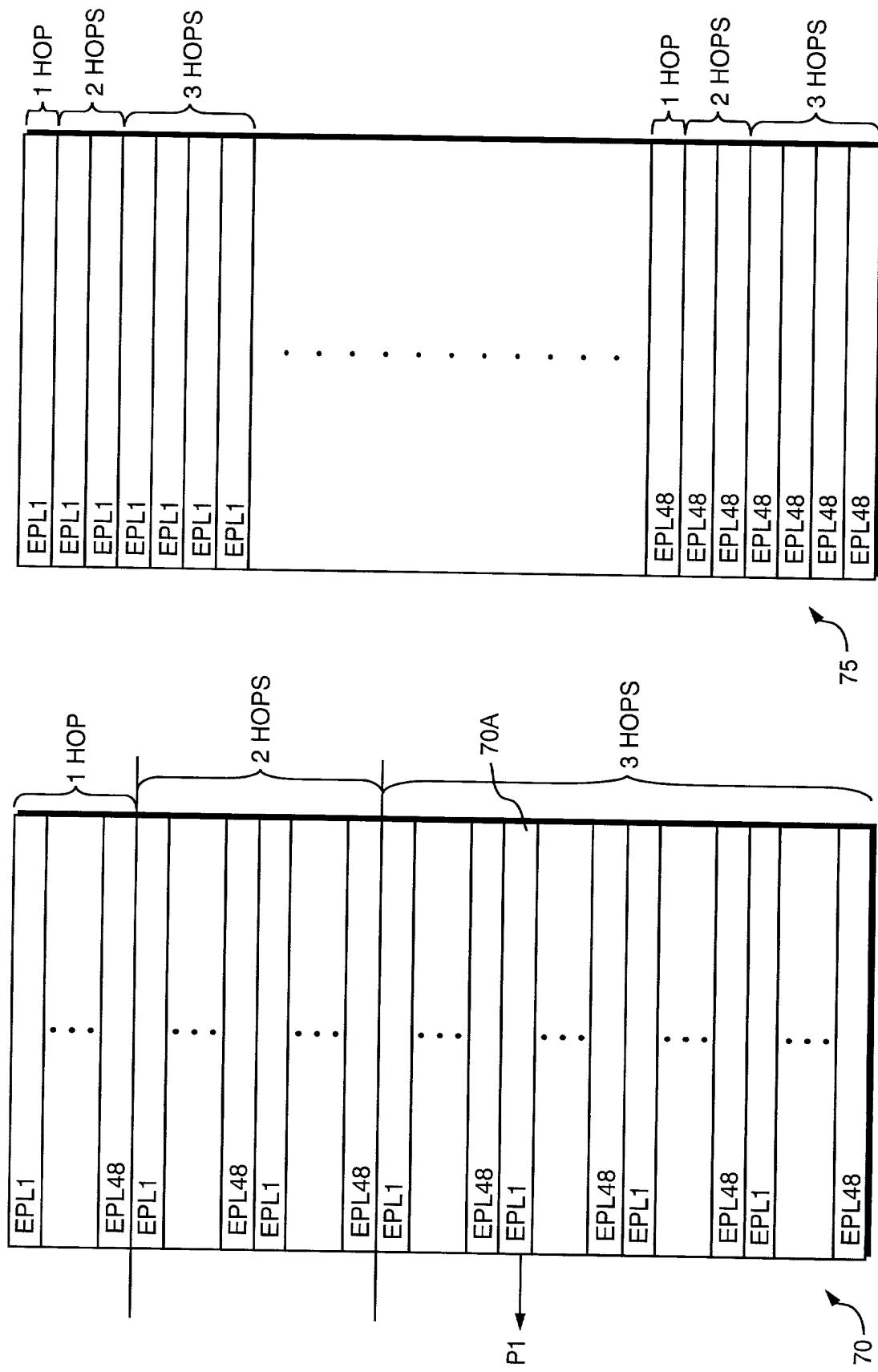


FIG. 11B

FIG. 11C

16/21

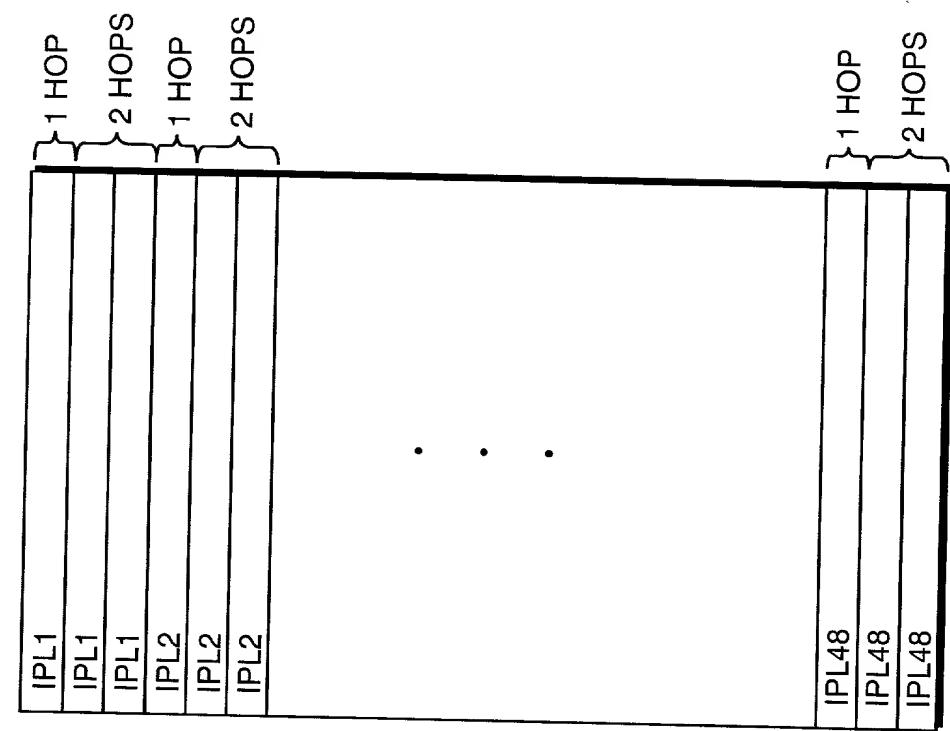


FIG. 11E

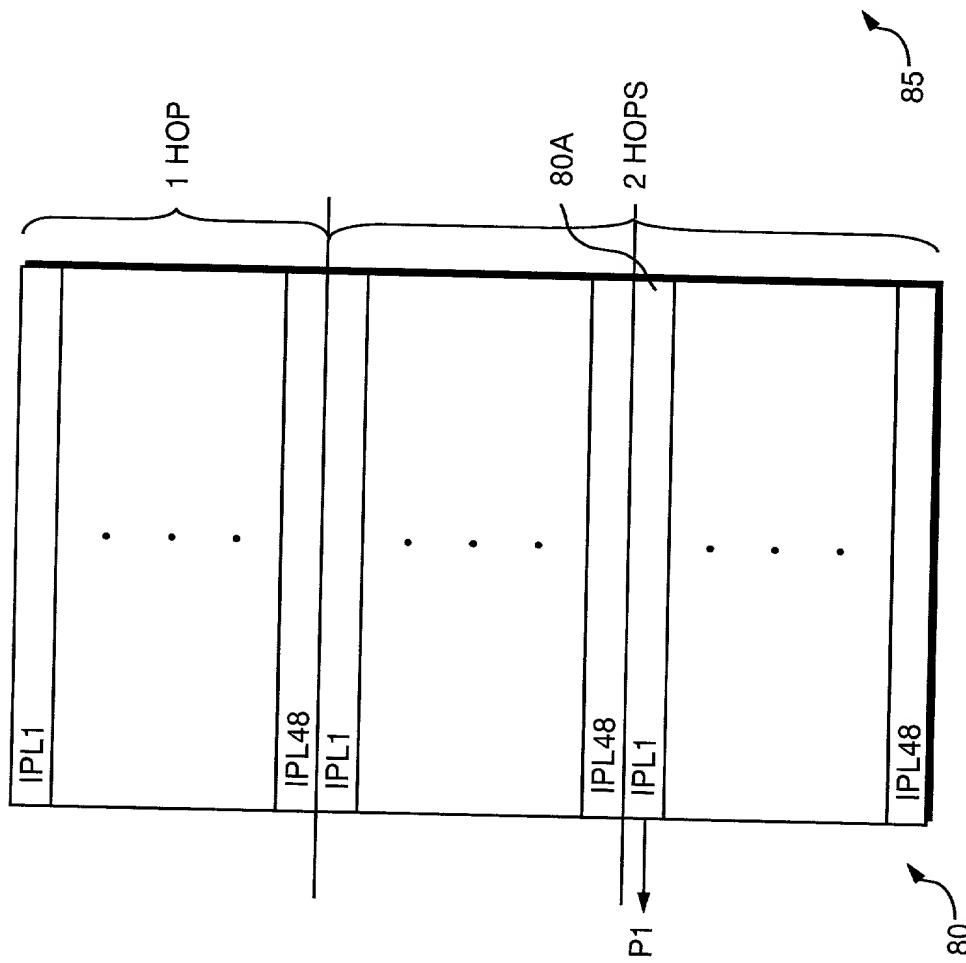


FIG. 11D

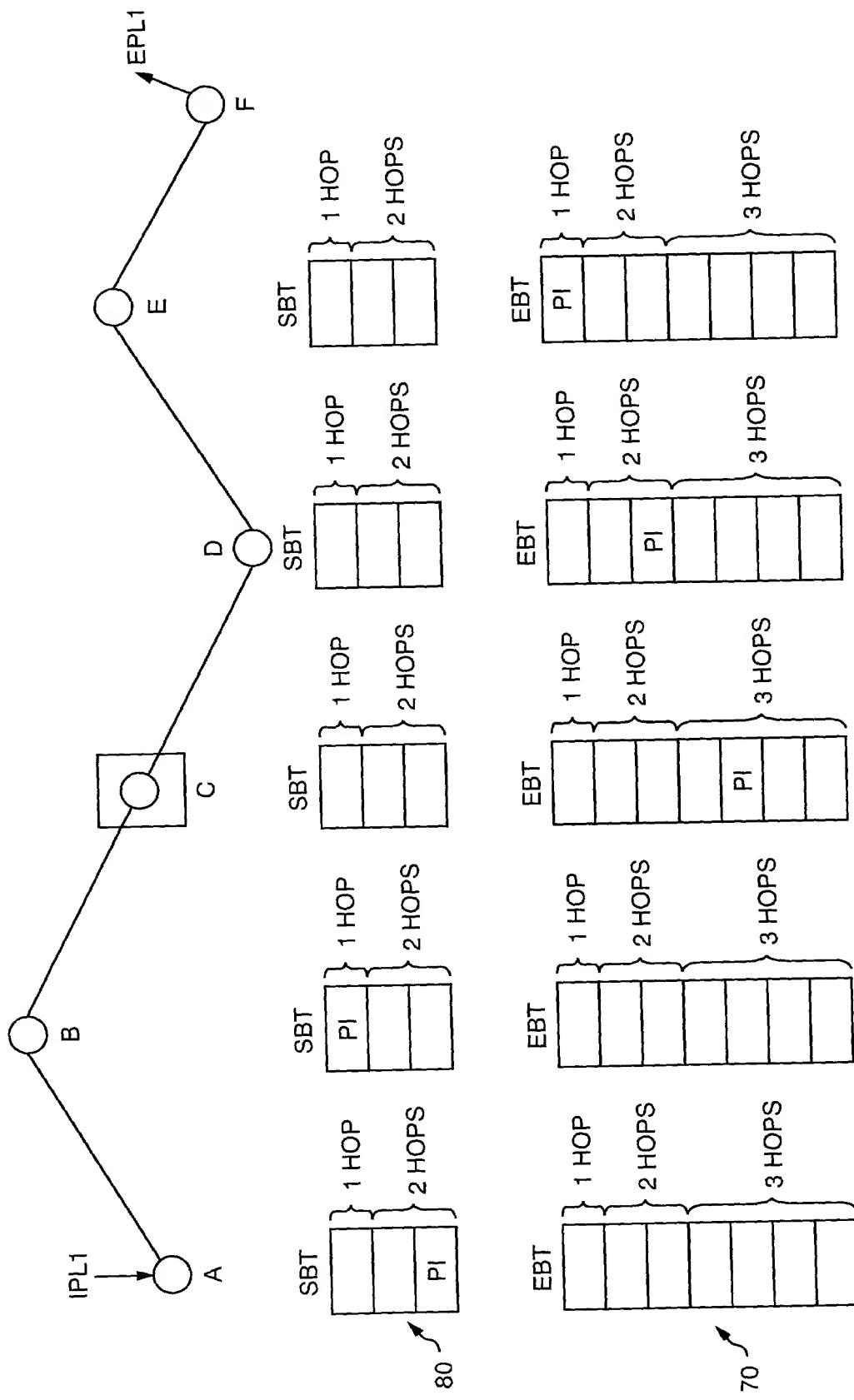


FIG. 11F

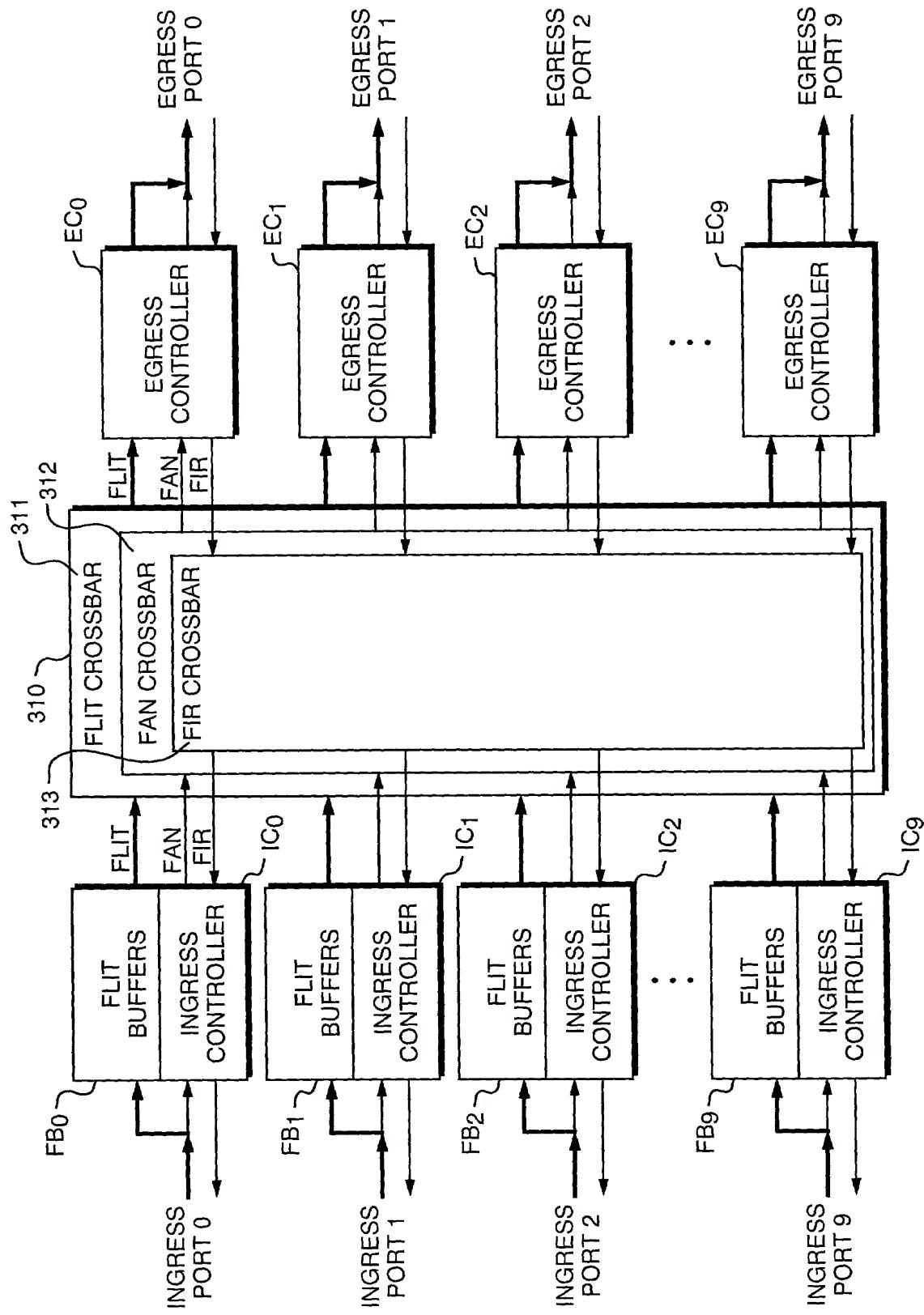


FIG. 12

19/21

CONTROL STRUCTURE	SIZE (IN BITS)	DESCRIPTION
IngressPacketState	1280x35=44,800	EACH IngressPacketState STRUCTURE MANAGES THE STORAGE OF A PARTIALLY RECEIVED PACKET ON ONE OF THE INGRESS PORTS.
EgressLaneState	(128x30=3,480)	EACH EgressLaneState STRUCTURE SUPPLIES INFORMATION USED TO PROCESS RECEIVED CREDITS.
AvailableEgressLane	(128x1)	EACH FLAG INDICATES THAT A PARTICULAR LANE IS AVAILABLE OR IN USE.
FanState	(512x44=22,528)	EACH FanState STRUCTURE HOLDS ONE FAN WAITING TO BE CONVERTED INTO A FIR AND POINTERS WHICH ALLOW CREATING A LINKED LIST OF PACKETS WAITING ON A PARTICULAR CHANNEL AND A LINKED LIST OF FANS COMPRISING A PARTICULAR PACKET.
AvailableFanState	(512x1)	EACH FLAG INDICATES THAT A PARTICULAR LOCAL FANSTATE STRUCTURE IS AVAILABLE OR IN USE.
WaitingForLanes	(2928x1)	EACH FLAG INDICATES THAT A PARTICULAR TUNNEL SEGMENT HAS A PACKET READY TO BE ASSIGNED TO A LANE AS SOON AS ONE BECOMES AVAILABLE.
WaitingForFSM	(2928x1)	EACH FLAG INDICATES THAT A PARTICULAR CHANNEL HAS A FAN READY TO BE CONVERTED INTO A FIR AS SOON AS THE EgressController HAS BANDWIDTH AVAILABLE TO PERFORM THE CONVERSION.
WaitingForFirFifo	(2304x1)	EACH FLAG INDICATES THAT A PARTICULAR LANE HAS A FAN READY TO CONVERT INTO A FIR AS SOON AS ROOM IN THE FIR FIFO BECOMES NON-FULL.
SegmentPointer	(2938x13=38,194)	EACH SegmentPointer POINTS TO A QUEUE OF PACKETS WAITING ON A TUNNEL SEGMENT.

FIG. 13

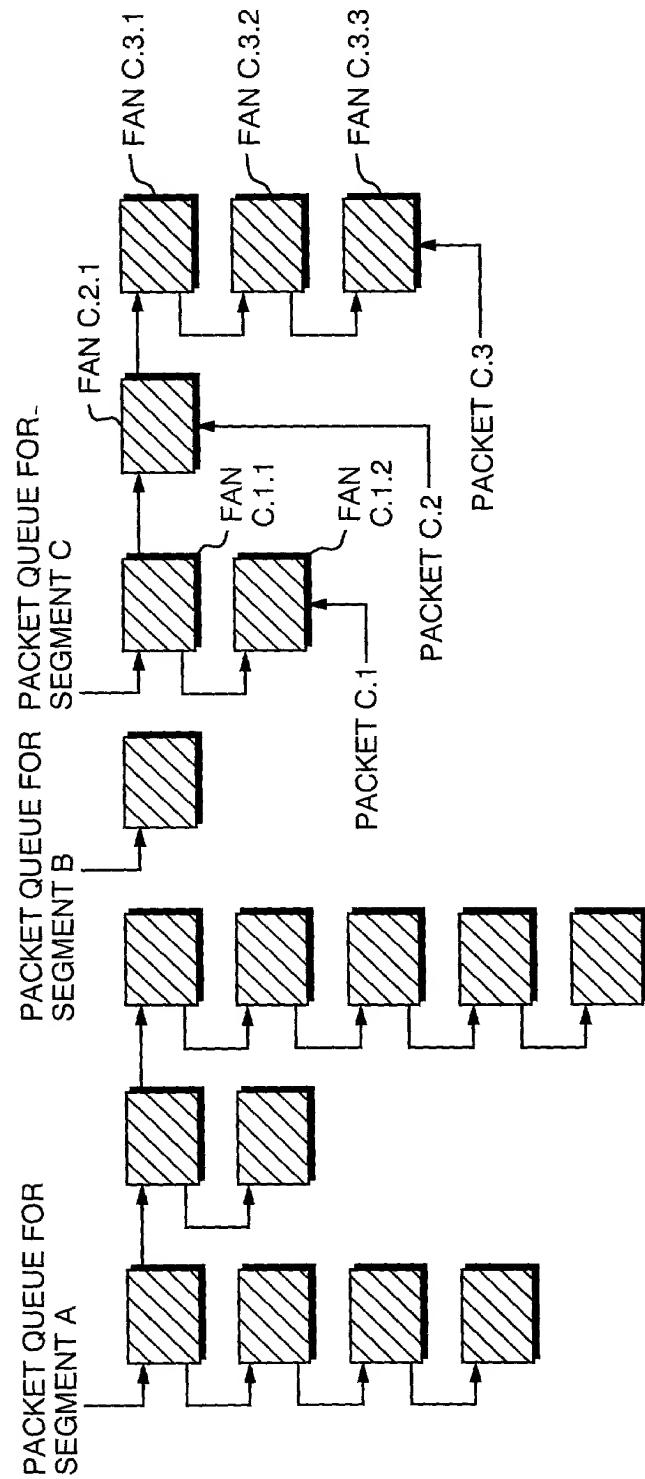


FIG. 14

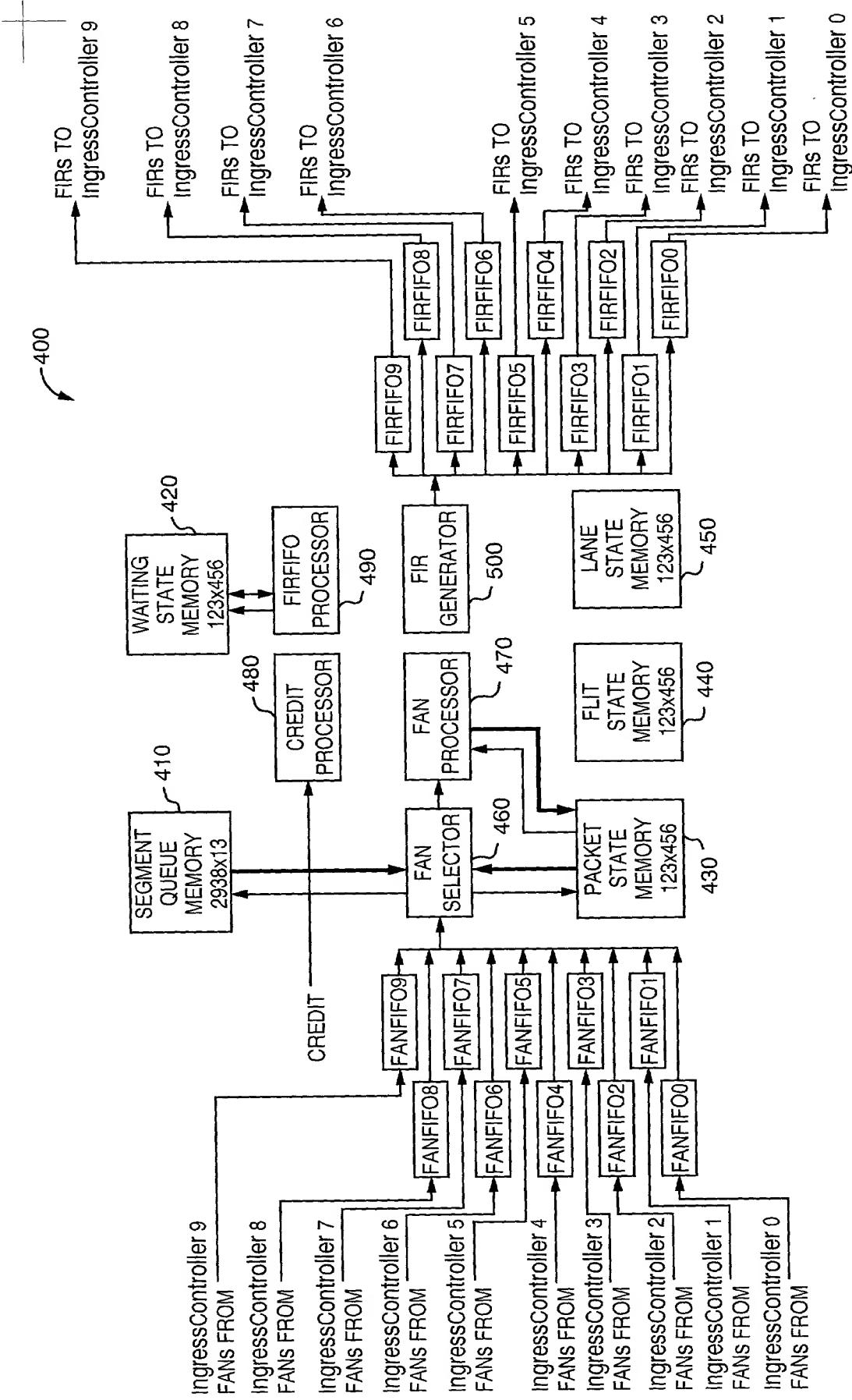


FIG. 15